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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CUNEO, KAMAND

ART UNIT PAPER NUMBER

2827

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

9/532807

Applicant(s)

Examiner

Cuneo

Group Art Unit

2827

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 5/8/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-27 is/are pending in the application.
- Of the above claim(s) 13-27 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-12 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☒ The drawing(s) filed on 3/21/00 is/are objected to by the Examiner.
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Group I (claims 1-12) in Paper No. 6 is acknowledged.

Drawings

2. The drawings are objected to for the following reasons.

The figures are improperly cross hatched. Only parts shown in cross section, and only those parts, must be cross hatched. Therefore, the cross hatching patterns from the elevation views must be deleted. See also 37 CFR 1.84(h)(3) and MPEP 608.02.

Drawing corrections in compliance with MPEP 608.02(v) are required in response to this office action.

Specification

3. The specification is objected to for the following reasons.

In the specification, at least the first recitation of all acronym must be accompanied by the phrase for which the acronym stands.

Examiner does not understand figure 3. Are the individual components (88, 86, 84) not superimposed? Why are these components shown as side-by-side? What are liners (91) and label (82)?

The illustration of the IC and conductive pads and adhesive in figure 1 does not agree with those shown in figures 4-11 and with figure 3.

Correction and explanation of these and similar errors are required. Applicant is required to

provide specification support for all corrections and explanations.

4. The abstract is objected to for not setting forth a concise explanation of the invention.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Extensive mechanical and design details of apparatus should not be given.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Correction of the abstract is required.

Treatment of Claims Based on Language and Format

5. 35 USC 112, first paragraph, states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-12 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The gap between the pads recited in claim 1 is not disclosed. Further, the illustrations of figures 1 and 2 clearly show no gap. The gap is also recited in claim 6. With respect to claims 5 and 11, the disclosure does not teach the conductive adhesive being applied around the edges of the interposer with respect to figures 4, 8-11: it shows it applied to the edges of the pads. With respect to figures 1 and 2, the disclosure shows the adhesive around the edges of the interposer, not the pads. In this case, it is unclear why the adhesive is conductive as it does not adhere the pad and the chip (the figures show a hole in the adhesive at the location of the pad).

7. 35 USC 112, second paragraph, states:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-12 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Claim 1, lines 1-2, "separate contact pads" is ambiguous: what are the pads separate from? This applies to claim 6 as well.

Claim 1, lines 3-5, "wherein the pads are formed in a pattern that. . ." is indefinite, because it is unclear what attributes are contemplated within the scope of the claim. That is, it is unclear what specific structural features are required to provide the functionality of allowing universal orientation as claimed. This applies to claim 9 as well.

Claim 2, the difference between the butterfly, bow-tie and propeller shapes is unclear. Therefore, the claim is ambiguous. This applies to claim 10 as well.

In claim 3, last line, please add "adhesive" before the period.

Claims 5 and 11 are indefinite. It is unclear whether "no adhesive in its center" means that there is none of the previously recited conductive adhesive in the center or whether there is no adhesive of any kind in the center.

Treatment of Claims Based on Prior Art

9. 35 USC 102 includes the following sections which state:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

10. Claims 1, 3-4, 6-9 are rejected under 35 USC 102(b) as being anticipated by Tagusa et al.

(US 4963002, hereafter Tagusa).

Claims 1, 3-4: The cover figure shows a substrate (54) with pads (55) having a gap therebetween. The pads are capable of connection of an item across the gap. The adhesive is anisotropic and conductive and is applied in a pattern: over the pads.

Claims 6-9, : The interposer is as explained in the paragraph above and the chip is member (50). The chip is adhered with conductive adhesive and is mounted across the gap.

11. Claims 6 and 12 are rejected under 35 USC 102(b) as being anticipated by Shoenthaler (US 5162613).

The cover figure discloses interposer (20), substrate (12) and chip (10). The pads of the interposer (top surfaces of (22)) as seen in figure 2 are separated by a gap are adhered to the chip

The interposer in adhered onto substrate (12) to form a device.

12. Claims 1, 3-5, 6-9 and 11-12 are rejected under 35 USC 102(b) as being anticipated by Shreeve et al. (US 5046953, hereafter Shreeve).

The cover figure discloses interposer (14, 21) having a substrate (20), substrate (26) and chip (16). The pads of the interposer (terminal portions of (18)), column 3 at lines 33-37, are separated by a gap and are adhered to the chip. The interposer in adhered onto substrate (26) to form a device.

The substrate (20) of the interposer has conductive adhesive (21) which is anisotropic and applied to the pads in a pattern. Adhesive (21) is adhered to the edges of the interposer with a central portion devoid of adhesive.

13. 35 USC 103(a) states:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Obviousness under 35 USC 103(a) is determined against a background established by the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), which are summarized in items 1-4 below.

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 2 and 10 are rejected under 35 USC 103(a) as being unpatentable over Tagusa as applied to claims 1 and 6 above, further in view of Jairazbhoy et al. (US 6169253, hereafter Jairazbhoy), Brunner et al. (US 6115262, hereafter Brunner) and Feger et al. (US 5360946, hereafter Feger).

Tagusa discloses the claimed invention except for disclosing the shape of the pads. Nevertheless, a mere change in shape of the pads is considered within the level of ordinary skill because Jairazbhoy (figure 6), Brunner (figure 5) and Feger (figure 8) show that different shapes of pads are known and applicant has not stated any reason for the specifically claimed shaped. Therefore, examiner concludes that one of ordinary skill in the art, at the time of the invention would have found it obvious to form the pads of Tagusa in any shape including butterfly,

propeller and bow-tie as a matter of design choice, the mere change in shape of the pad being irrelevant to the operation of the device and known to one of ordinary skill as evinced by Jairazbhoy, Brunner and Feger.

Related Prior Art

15. The following references are considered pertinent to the present application.

Seiplier (provided on IDS) discloses substrate (50) with conductive adhesive (51) on the edges where chip (10) is mounted.

Closing

16. Any inquiries related to the examination of this application should be directed to Ex. K. Cuneo at (703) 308-1233 or her supervisor SPE David L. Talbott at (703) 305-9883. Inquiries of a general nature should be directed to the receptionist of Group 2800 at (703) 308-0956. The fax numbers for Group 2800 are (703) 308-7722 and 7724.



K. Cuneo
Primary Examiner
July 29, 2002